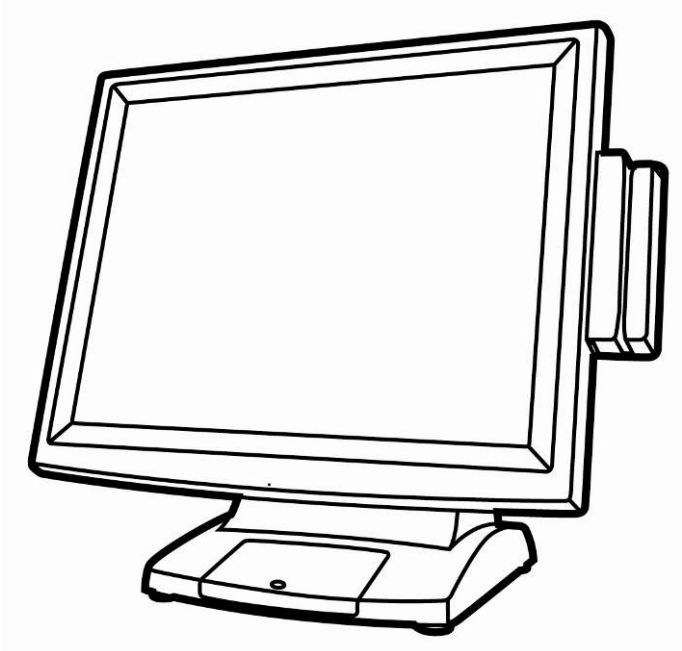
User Manual

Version 1.3 December 2012

ION-TP2A
Hardware System



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Manual Version 1.3

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Safety

IMPORTANT SAFETY INSTRUCTIONS

1. To disconnect the machine from the electrical Power Supply, turn off the power switch and remove the power cord plug from the wall socket. The wall socket must be easily accessible and in close proximity to the machine.
2. Read these instructions carefully. Save these instructions for future reference.
3. Follow all warnings and instructions marked on the product.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
9. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

CE MARK

CE This device complies with the requirements of the EEC directive 2004/108/EC with regard to “Electromagnetic compatibility” and 2006/95/EC “Low Voltage Directive”

FCC

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation

CAUTION ON LITHIUM BATTERIES

There is a danger of explosion if the battery is replaced incorrectly. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Battery Caution

Risk of explosion if battery is replaced by an incorrectly type.
Dispose of used battery according to the local disposal instructions.

Safety Caution

Note: To comply with IEC60950-1 Clause 2.5 (limited power sources, L.P.S) related legislation, peripherals shall be 4.7.3.2 "Materials for fire enclosure" compliant.

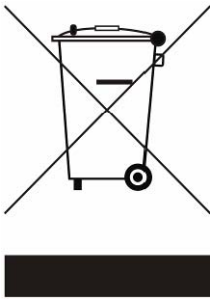
4.7.3.2 Materials for fire enclosures

For MOVABLE EQUIPMENT having a total mass not exceeding 18kg.the material of a FIRE ENCLOSURE, in the thinnest significant wall thickness used, shall be of V-1 CLASS MATERIAL or shall pass the test of Clause A.2.

For MOVABLE EQUIPMENT having a total mass exceeding 18kg and for all STATIONARY EQUIPMENT, the material of a FIRE ENCLOSURE, in the thinnest significant wall thickness used, shall be of 5VB CLASS MATERIAL or shall pass the test of Clause A.1

LEGISLATION AND WEEE SYMBOL

2012/19/EU Waste Electrical and Electronic Equipment Directive on the treatment, collection, recycling and disposal of electric and electronic devices and their components.



The crossed dustbin symbol on the device means that it should not be disposed of with other household wastes at the end of its working life. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure.
To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract.

This product should not be mixed with other commercial wastes for disposal.

Revision History

Revision	Date	Description
V1.0	Sep, 2009	● Release
V1.1	June, 2011	● C46 MB added
V1.2	July,2012	● C56 MB added
V1.3	December, 2012	● I/O port changed ● Rear cover changed ● MSR module changed

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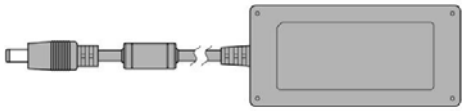
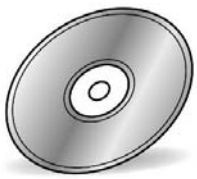
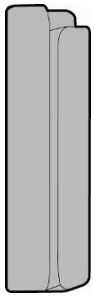
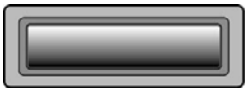
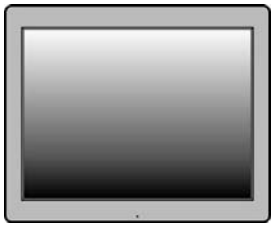
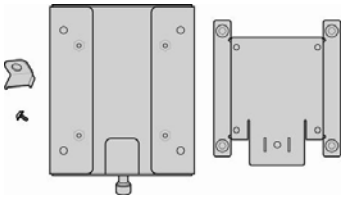
1 Item Checklist

1-1 Standard Items

	
a. System	b. Power adapter (65W)
c. Power cable	d. COM-RJ45 cable (x3)
	
e. Driver CD	

1-2 Optional Items

	
a. MSR module	b. VFD module
	
c. Second display	d. Wall mount kit

2 System View

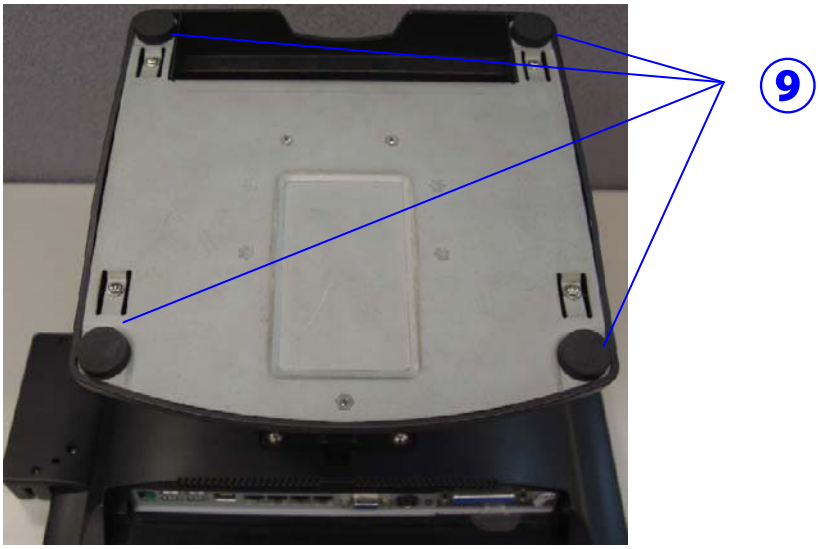
2-1 Front View

Number	Description
1	Touch screen
2	MSR module (Option)
3	Power button

2-2 Rear View

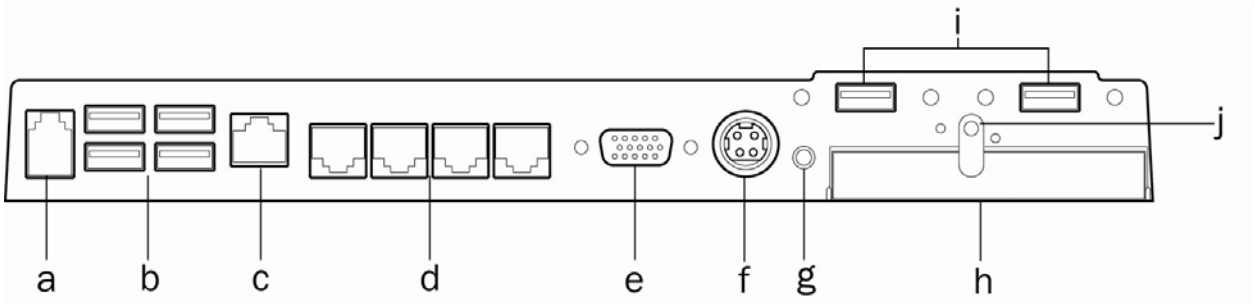
Number	Description
5	VFD cover (for VFD & Second display installation)
6	Stand/Wall mount kit installing place
7	Stand
8	Cable management outlet

2-3 Bottom View



Number	Description
9	Stand pad

2-4 I/O View

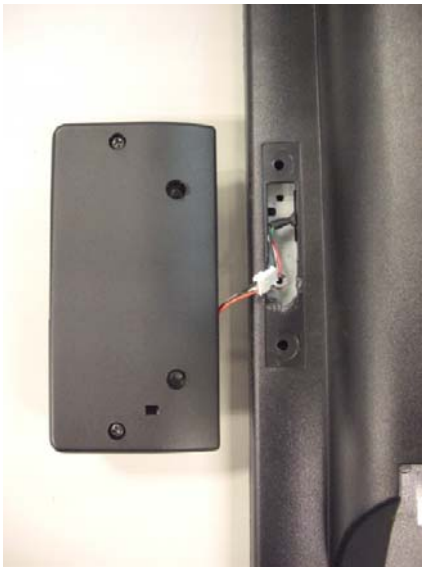


Number	Description
a	Cash drawer
b	USB x 4
c	LAN
d	COM1~4 (from right to left)
e	VGA
f	Power jack for system
g	Power button
h	HDD
i	USB x 2
j	HDD clip

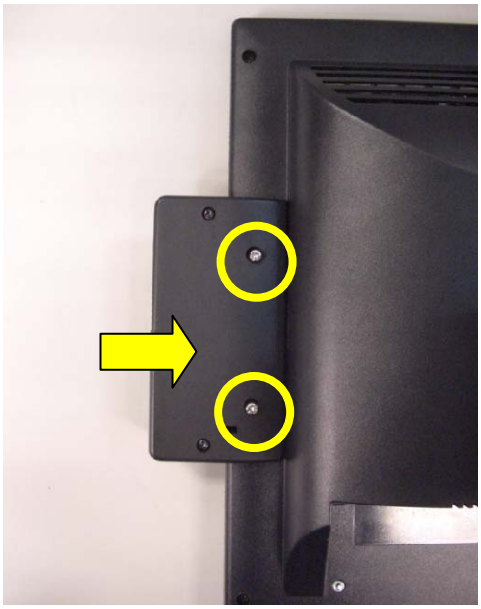
Note: The maximum current that can be drawn from each COM port is 500 mA.

3 Peripherals Installation

3-1 MSR Installation



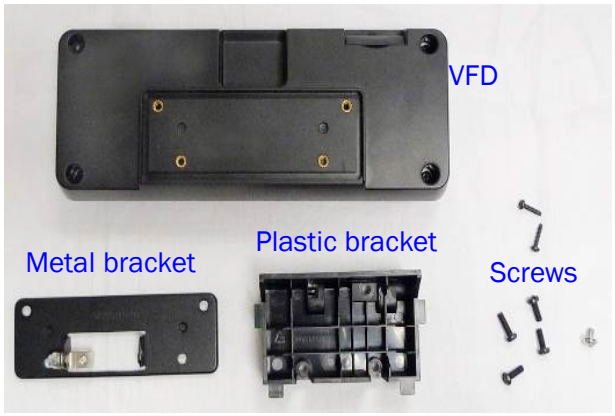
1. Open the dummy cover of the MSR.
2. Connect the MSR cable to the connector on the system.

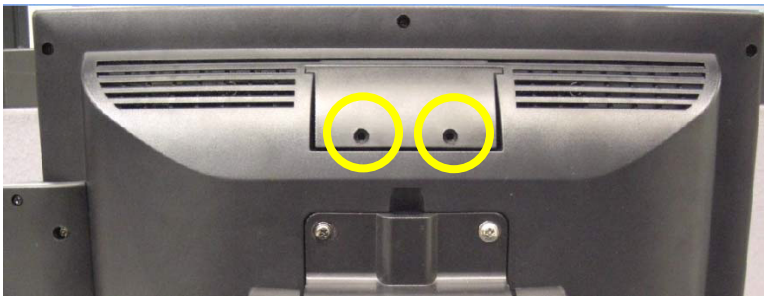


3. Insert the MSR module in place and fasten the screw (x2) on the back to secure the module.

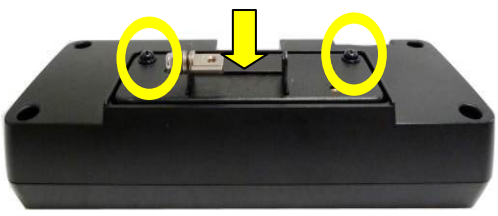
3-2 VFD Installation

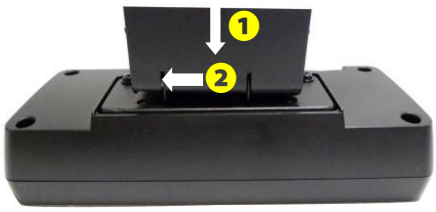
Accessories:



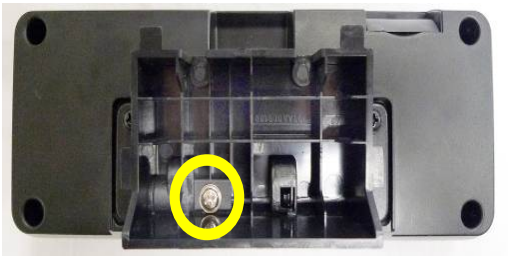


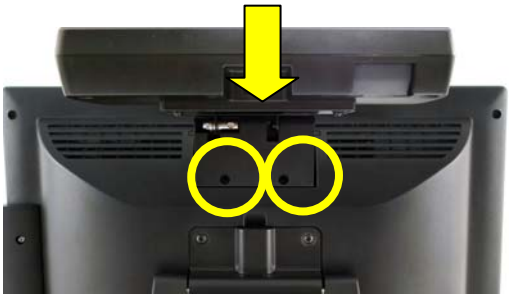
1. Remove the screws (x2) and slide the VFD cover outward.





2. Position the VFD metal bracket onto the rear side of the VFD module and fasten the screws (x2).
3. Position the plastic bracket onto the metal bracket as shown in the picture.





4. Fasten the screw (x1) to fix the plastic bracket to the metal bracket and VFD module.
5. Slide the VFD module with bracket into the VFD socket.
6. Fasten the screws (x2) to fix the VFD module.

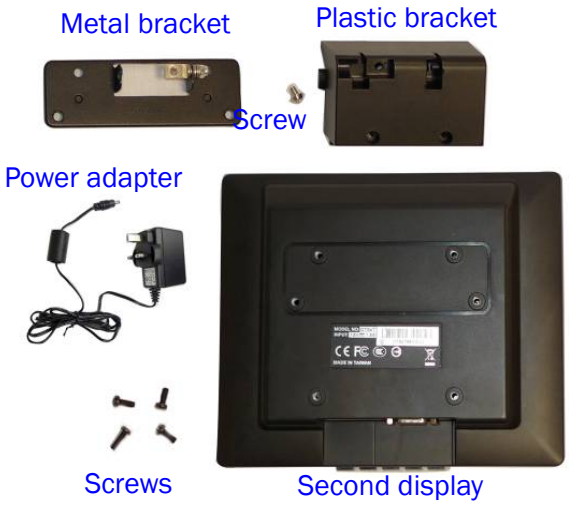
7. Connect the VFD cable to the VFD module.

8. Connect the VFD cable to the COM4 port on the System.

3-3 Second Display Installation

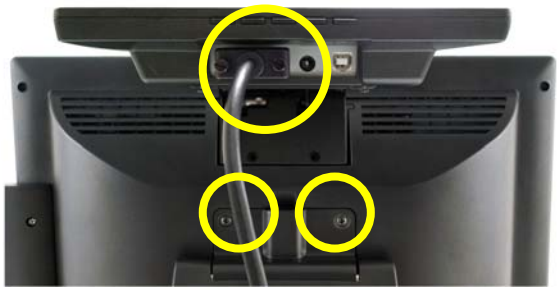
To install the 8.4” second display, please open the VFD cover first (See chapter 3-2 step1).

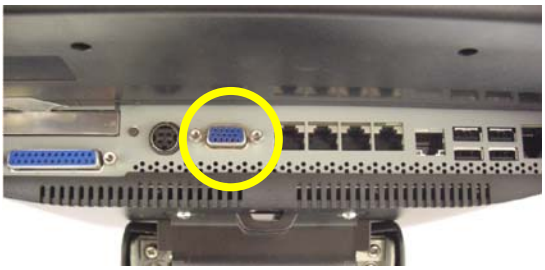
Accessories:



1. Place the system face down, make sure not to scratch the screen.
2. Place the metal bracket onto the rear side of the second display and fasten the screws (x4) to fix metal bracket with the system.
3. Align the plastic bracket onto the metal bracket, and push to the left side until it clicks in place.

4. Fasten the screw (x1) to fix the platic bracket and second display module with metal bracket.
5. Slide the second display module into the slot.



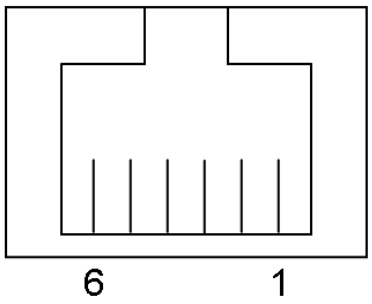


6. Fasten the scrws (x2) to fix the second display moudle with the system.
7. Connect the VGA cable to the second display module and the COM port on the system.

3-4 Cash Drawer Installation

You can install a cash drawer through the cash drawer port. Please verify the pin assignment before installation.

Cash Drawer Pin Assignment



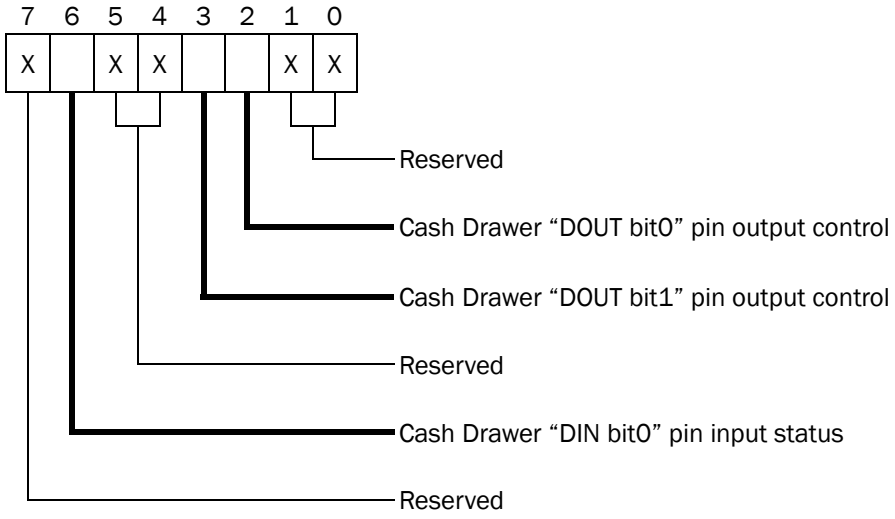
Pin	Signal
1	GND
2	DOUT bit0
3	DIN bit0
4	12V / 19V
5	DOUT bit1
6	GND

Cash Drawer Controller Register

The Cash Drawer Controller use one I/O addresses to control the Cash Drawer.

Register Location: 48Ch
Attribute: Read / Write
Size: 8bit

BIT	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
Attribute	Reserved	Read	Reserved		Write		Reserved	


7 6 5 4 3 2 1 0
X X X X X
Reserved
Cash Drawer “DOUT bit0” pin output control
Cash Drawer “DOUT bit1” pin output control
Reserved
Cash Drawer “DIN bit0” pin input status
Reserved

Bit 7: Reserved

Bit 6: Cash Drawer “DIN bit0” pin input status.

= 1: the Cash Drawer closed or no Cash Drawer

= 0: the Cash Drawer opened

Bit 5: Reserved

Bit 4: Reserved

Bit 3: Cash Drawer “DOUT bit1” pin output control.

= 1: Opening the Cash Drawer

= 0: Allow close the Cash Drawer

Bit 2: Cash Drawer “DOUT bit0” pin output control.

= 1: Opening the Cash Drawer

= 0: Allow close the Cash Drawer

Bit 1: Reserved

Bit 0: Reserved

Note: Please follow the Cash Drawer control signal design to control the Cash Drawer.

Cash Drawer Control Command Example

Use Debug.EXE program under DOS or Windows98

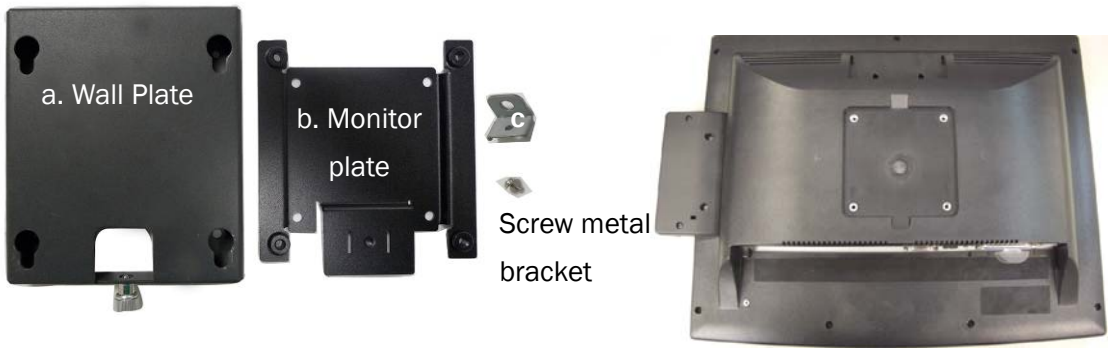
Command	**Cash Drawer**
O 48C 04	Opening
O 48C 00	Allow to close
➢ Set the I/O address 48Ch bit2 =1 for opening Cash Drawer by “DOUT bit0” pin control. ➢ Set the I/O address 48Ch bit2 = 0 for allow close Cash Drawer.	

Command	**Cash Drawer**
I 48C	Check status
➢ The I/O address 48Ch bit6 =1 mean the Cash Drawer is opened or not exist. ➢ The I/O address 48Ch bit6 =0 mean the Cash Drawer is closed.	

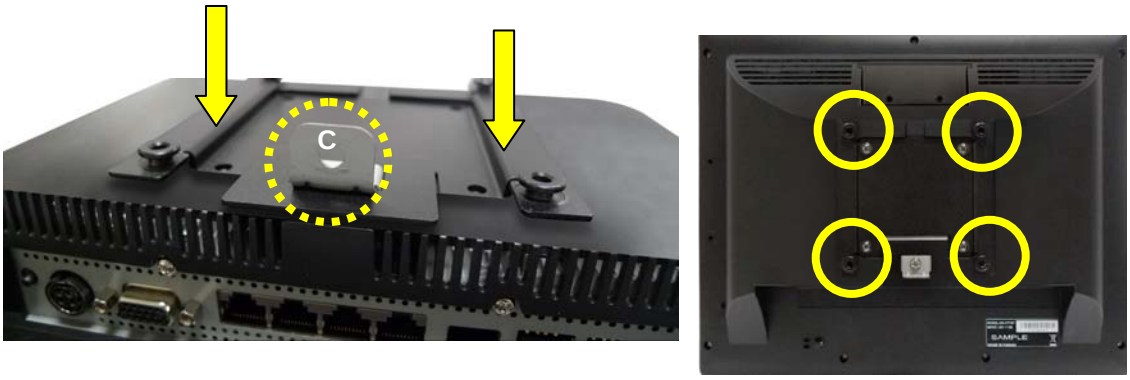
3-5 Wall Mount Kit

Before installing the Wall Mount Kit, please remove the stand first if needed. (See Chapter 4-3)

Accrssories **Place to install**



1. The wall mount Kit installing place is at the rear side of the system.



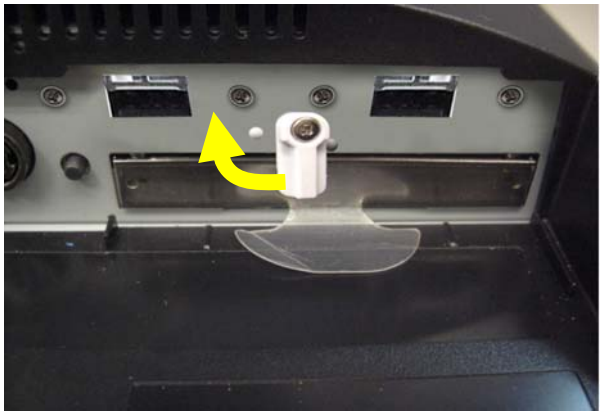
2. Place “b” onto the rear side of the LCD rear cover.
3. Place “c” onto the hole of the monitor plate and fasten the screw (x1).
4. Fasten the screws (x4) to fix the monitor plate.

5. Fix “a” on the wall.
6. Fasten the thumb screw (x1).
7. Align the large end of the teardrop mounting holes (x4) on the wall plate with the screws (x4) on the systems rear cover. Slide the wall plate until the screws are even with the narrow end.

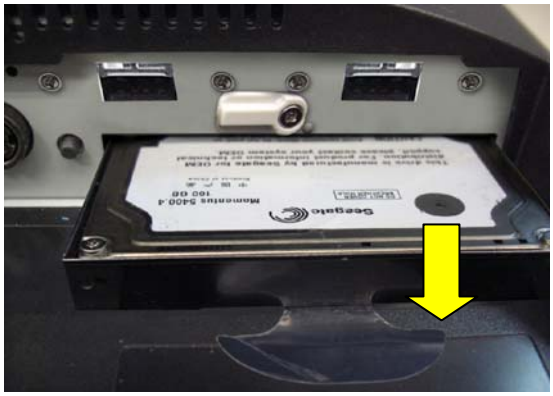
4 System Assembly & Disassembly

4-1 Replace the HDD

1. Place the system face down. Make sure not to scratch the screen.

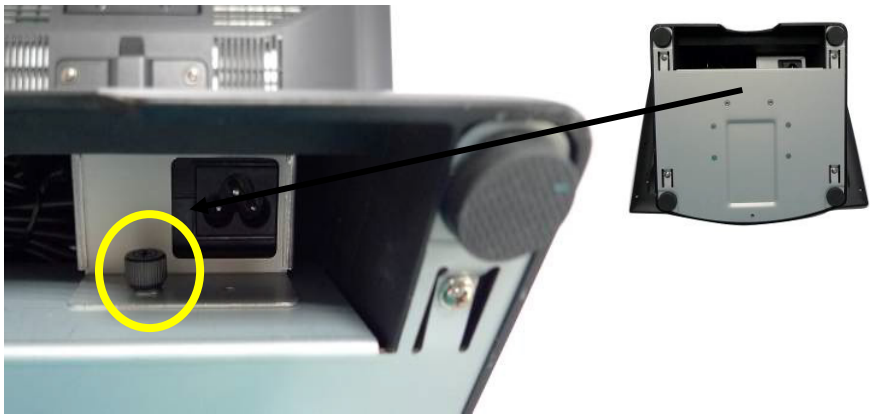


2. The HDD is secured by a clip, please push the clip aside as the picture shows.



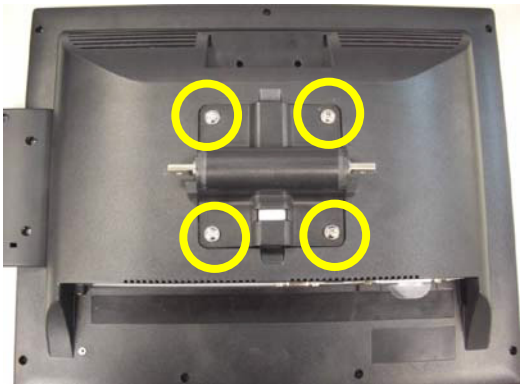
3. Pull the plastic tab (see picture) to remove the hard drive.

4-2 Replace the Power Adapter

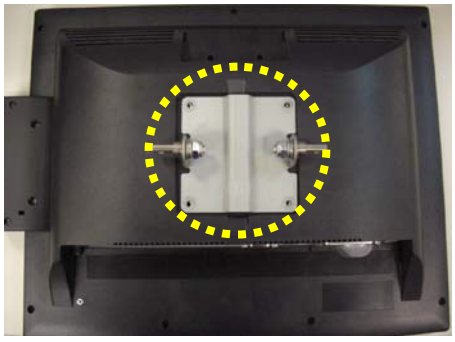


1. Unfasten the thumb screw (x1) to separate the retaining metal bracket from the stand and take out the power adapter.

4-3 Remove the System Stand



1. Remove the screws (x2) that secure the stand and the system.
2. Remove the screws (x4) that fasten the plastic VESA mounting plate and the LCD rear cover.



3. Remove the VESA metal bracket.

5 Specification

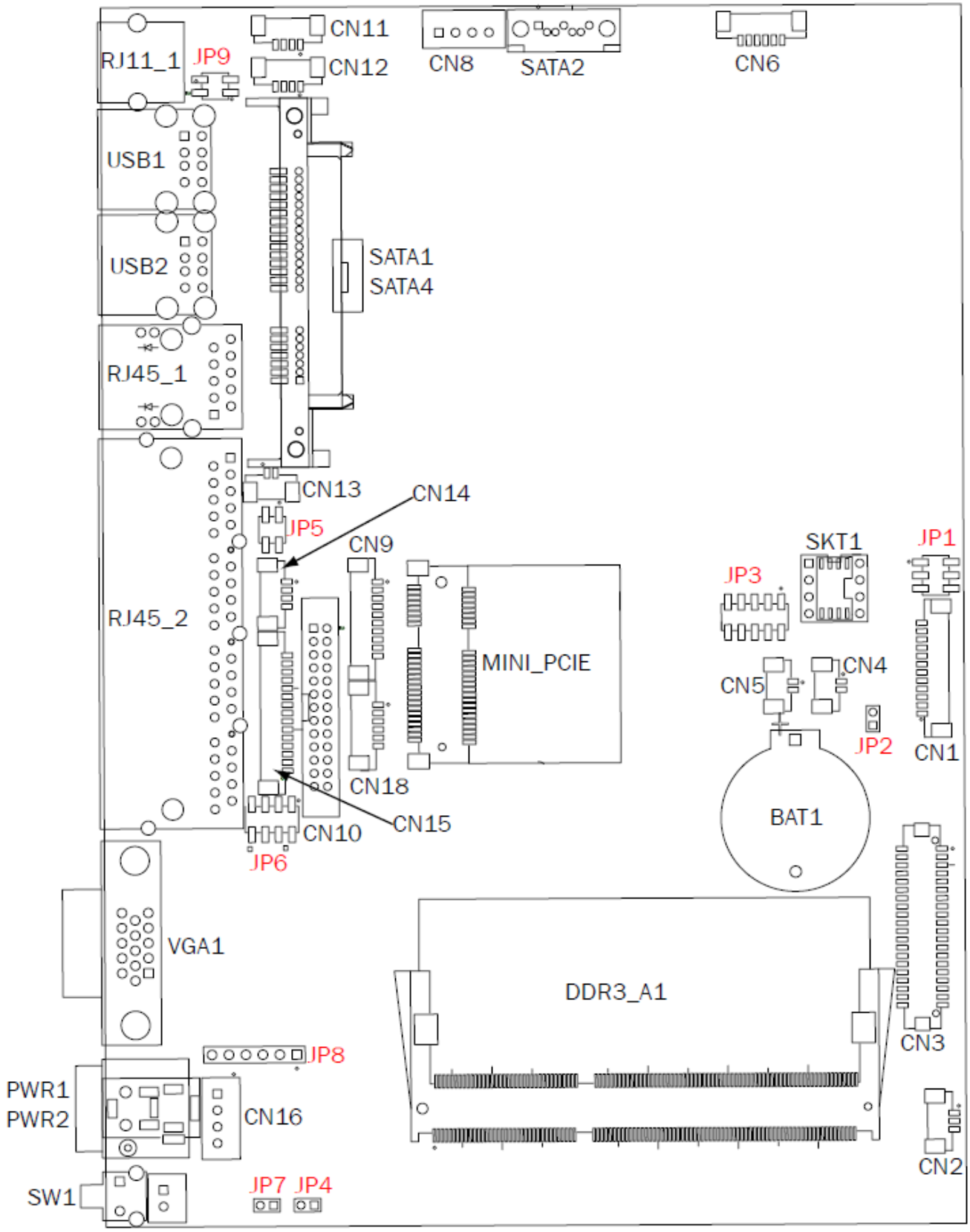
Model Name	**ION-TP2A**
Motherboard	**C56**
CPU Support	Intel Cedarview D2550 dual-core 1.86GHz, L2 1M
Chipset	CPU integrated graphic + NM10
System Memory	1 x DDR3 SO-DIMM up to 4GB, 1066MHz
Graphic Memory	Intel GMA 3650 (Gfx frequency up to 640MHz), DX9
LCD Touch Panel	
LCD Size	15” TFT LCD
Brightness	250nits
Maximal Resolution	1024 x 768
Touch Screen Type	Resistive
Tilt Angle	4° ~ 84°
Storage	
HDD	One 2.5" SATA HDD bay
Flash Memory	SATA SSD flash card (Option)
Expansion	
PCI-E Socket	1
External I/O Ports	
USB	6 ports (V2.0)
Serial / COM	4 (RJ45 type, COM1 w/o power, COM2/COM3/COM4 powered COM with power enable /disable by BIOS setting, COM2 is 0V/5V; COM3 is 0V/5V, COM4 is 0V/12V, default BIOS setting 0V)
LAN (10 /100 / 1000)	1 x RJ45
DC Jack	1
2nd VGA	1 (DB-15 Female, power by BIOS configuration)

Model Name	**ION-TP2A**
Motherboard	**C56**
Cash Drawer Port	1 (12V/24V cash drawer power by BIOS configuration)
Audio	
Speaker	2 x 2W speakers (Option)
Power	
Power Adapter	65W, 19V/3.42A
Control / Indicator	
Power Button	1
Indicator LED	1
Peripherals	
MSR module	MSR (USB)
Customer Display	2 x 20 VFD customer display (COM)
Second Display	8.4" 2nd display without touch
Communication	
Wireless LAN	802.11 b/g/n wireless LAN card & antenna (Option)
Environment	
EMC & Safety	FCC/CE Class A, LVD
Operating Temperature	0°C ~ 35°C (32°F ~ 95°F)
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)
Humidity	20% ~ 85% RH non condensing
Dimension (W x D x H)	LCD 4 degree : 365.2 x 296.2 x 282.2 mm
	LCD 84 degree : 365.2 x 217.8 x 343.1 mm
Weight (N.W./G.W.)	5.8kgs / 6.8kgs
Mounting	100mm x100mm VESA standard holes
OS Support	Windows® XP Professional, Windows Embedded, POSReady 2009, Windows XP Embedded, Windows XP Professional for Embedded, WinCE, Windows 7, Linux
* This specification is subject to change without prior notice.	

6 Jumper Settings

6-1 C56 Motherboard

6-1-1 Motherboard Layout



6-1-2 Connectors & Functions

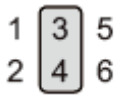
Connectors	Functions
CN1	LVDS Inverter Connector
CN2	System FAN Connector
CN3	LVDS Connector
CN4	Power LED Connector
CN5	SATA LED Connector
CN6	Speaker & MIC Connector
CN8	SATA Power Connector
CN9	COM5(Touch) Connector
CN10	Printer Port Connector
CN11/12	USB Port(Internal)
CN13	LAN LED Connector
CN14	PS2 Keyboard Connector
CN15	Card Reader Connector(COM6)
CN16	+19V DC IN Connector
CN17	Power button(Internal)
CN18	Front I/O Connector(USB/power LED/ Power button)
PWR2/3	+19V DC JACK
RJ11_1	Cash Drawer Connector
RJ45_1	LAN Connector
RJ45_2	COM1/ COM2/ COM3/ COM4
DDR2_A1	DDR3 SO-DIMM
SATA1/2/4	SATA Connector
SKT1	BIOS Connector
USB1	USB6 USB7
USB2	USB4 USB5
VGA1	VGA Connector
SW1	Power button
JP1	Inverter Select
JP2	CMOS Operation Mode
JP3	LCD ID Setting
JP4	H/W Reset
JP5	COM2 Power Setting
JP6	COM3/COM4 Power Setting
JP7	Auto Button Setting
JP8	Touch Connector
JP9	CASH DRAWER Power Setting

6-1-3 Jumper Settings

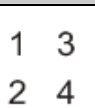
Cash Drawer Power Setting

Function	**JP9** (1-2) (3-4)
▲+19V	
+12V	

Inverter Selection

Function	**JP1** (1-2) (3-4) (5-6)
LED	
▲CCFL	

COM2 Power Setting

Function	**JP5** (1-2) (3-4)
▲ No Power	
COM2 +5V	
COM2 +12V	

▲ = Manufacturer Default Setting OPEN SHORT

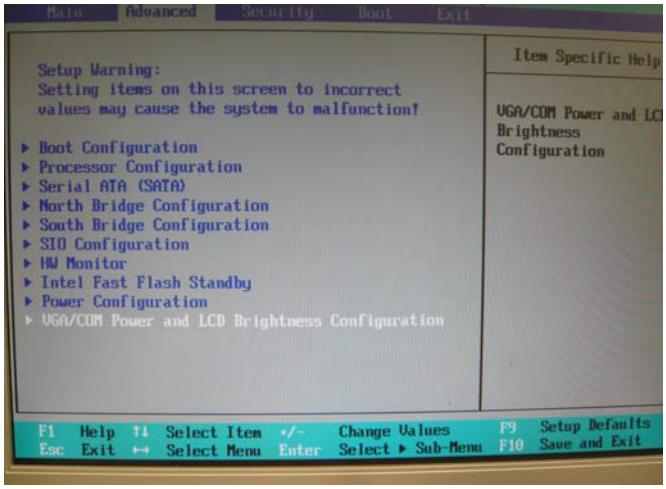
COM 3 & COM4 Power Setting

Function	**JP6** (1-2) (3-4) (5-6) (7-8)
▲COM3 +5V	
COM3 +12V	
COM4+ 5V	
▲COM4 +12V	

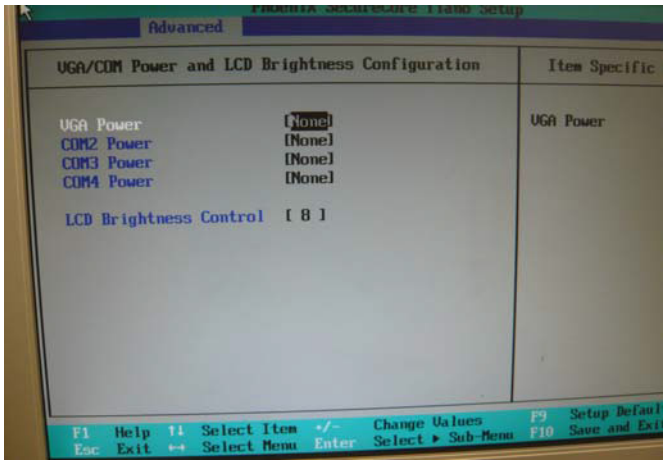
COM2/COM3/COM4 Power Setting

COM2, COM3 and COM4 can be set to provide power to your serial device.
The voltage can be set to +5V or +12V by setting jumper JP9 on the motherboard.
When enabled, the power is available on pin 10 of the RJ45 serial connector.
If you use the serial RJ45 to DB9 adapter cable, the power is on pin 9 of the DB9 connector. By default, the power option is **disabled** in the BIOS.

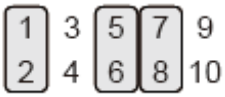
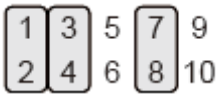
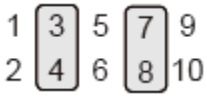
1. Power on the system, and press the <DEL> key when the system is booting up to enter the BIOS Setup utility.
2. Select the Advanced tab.
3. Select **VGA/COM Power and LCD Brightness Configuration** Ports and press <Enter> to go to display the available options.


Main Advanced Security Boot Exit
Setup Warning:
Setting items on this screen to incorrect values may cause the system to malfunction!
Item Specific Help
VGA/COM Power and LCD Brightness Configuration
Boot Configuration
Processor Configuration
Serial ATA (SATA)
North Bridge Configuration
South Bridge Configuration
SIO Configuration
HW Monitor
Intel Fast Flash Standby
Power Configuration
VGA/COM Power and LCD Brightness Configuration
F1 Help ↑↓ Select Item +/- Change Values F9 Setup Defaults
Esc Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10 Save and Exit

4. To enable the power, select COM2 , COM3 or COM4 Power setting and press <Enter>. Select Power and press <Enter>. Save the change by pressing F10.


Advanced
VGA/COM Power and LCD Brightness Configuration
Item Specific
VGA Power
VGA Power [None]
COM2 Power [None]
COM3 Power [None]
COM4 Power [None]
LCD Brightness Control [8]
F1 Help ↑↓ Select Item +/- Change Values F9
Esc Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10

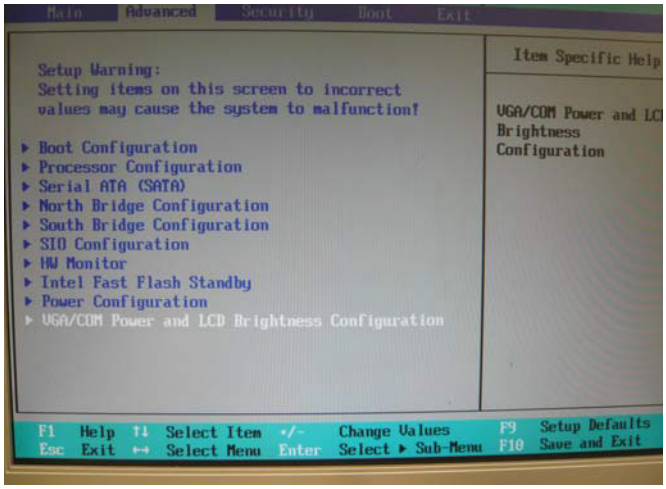
LCD ID Setting

Panel Number	Resolution	LVDS		Output Interface	JP3 (1-2) (3-4) (5-6) (7-8) (9-10)
		Bits	Channel		
1	800 x 600	18	Single	LVDS Panel	
2	800 x 600	18	Single	LVDS Panel	
3	800 x 600	24	Single	LVDS Panel	
4	1024 x 600	18	Single	LVDS Panel	
5	1024 x 768	18	Single	LVDS Panel	
6	800 x 600	24	Single	LVDS Panel	
7	1024 x 768	24	Single	LVDS Panel	
10	1366 x 768	18	Single	LVDS Panel	
11	1366 x 768	24	Single	LVDS Panel	
				CRT	

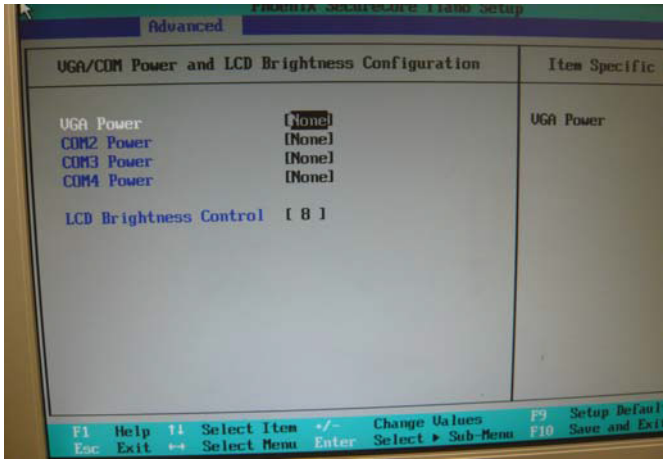
*Panel No.6 for 8.4” (HSD0841SN1-A01)HANNSTAR and 10.4” (A1048N03 V.1) AUO

2nd VGA Power Setting

1. Power on the system, and press the <DEL> key when the system is booting up to enter the BIOS Setup utility.
2. Select the Advanced tab.
3. Select **VGA/COM Power and LCD Brightness Configuration** Ports and press <Enter> to go to display the available options.


Main
Advanced
Security
Boot
Exit
Setup Warning:
Setting items on this screen to incorrect values may cause the system to malfunction!
Item Specific Help
VGA/COM Power and LCD Brightness Configuration
Boot Configuration
Processor Configuration
Serial ATA (SATA)
North Bridge Configuration
South Bridge Configuration
SIO Configuration
HW Monitor
Intel Fast Flash Standby
Power Configuration
VGA/COM Power and LCD Brightness Configuration
F1 Help ↑↓ Select Item +/- Change Values F9 Setup Defaults
Esc Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10 Save and Exit

4. To switch on the power, select "+12V" press <Enter>. Please Save the change by pressing F10.


Advanced
VGA/COM Power and LCD Brightness Configuration
Item Specific
VGA Power
VGA Power [None]
COM2 Power [None]
COM3 Power [None]
COM4 Power [None]
LCD Brightness Control [8]
F1 Help ↑↓ Select Item +/- Change Values F9
Esc Exit ↔ Select Menu Enter Select ▸ Sub-Menu F10

7 Appendix: Driver Installation

The shipping package includes a Driver CD. You can find every individual driver and utility that enables you to install the drivers in the Driver CD.
Please insert the Driver CD into the drive and double click on the “index.htm” to pick the models. You can refer to the drivers installation guide for each driver in the “Driver/Manual List”.